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TRENDS AND PROBLEMS IN THE DEVELOPMENT OF WIRELESS DATA TECHNOLOGIES

Absract: the world of technologies is constantly developing. Wireless communication has impacted the world in many important ways. The term wireless refers to the communication or transmission of information over a distance without requiring wires, cables or any other electrical conductors. Nowadays almost all computing devices equipped to communicate wirelessly. However, without wired technology, the world would not achieve such results in the development of the wireless data transmission.

Will the development of wireless data transmission continue? Will they be better and cheaper than wire technology? Are there any problems in the development of wireless technologies? What steps need to be taken to resolve them?

Key words: Wireless technology, wired technology, communication, radio, technological devices, transfer of information.

At the end of the 19th century, the first wireless communication systems were introduced. The Russian physicist Alexander Popov was the first to demonstrate the practical application of radio waves. In 1895 he built the first radio receiver containing a coherer. It was the first discovery in the field of cordless technologies.

It is necessary to define wired technologies. Wired communication refers to the transmission of data over a wire-based communication technology. Wired technology has been around for ages. It first became popular in the early 1900's with the introduction of the telephone network. But these days, wired technology continues its development, for example, fiber-optic cables. They carry information between two places using entirely optical (light-based) technology [2].

Wireless data technology has been developed significantly over the past years. Evolution of data transmission has always been striving towards higher data transfer rate than that in the past. Nowadays almost all computing devices, including desktops, workstations, monitors, keyboards and notebooks are equipped to communicate wirelessly.

Wireless communications and networking technologies have drastically changed the way we live. Wireless does not mean sparks, noise, or a lot of switches. Wireless means the method of transmission information between two or more points that are not connected by an electrical conductor. Wireless data services and systems represent increasingly important segment. The Communication is set, and the information is transmitted through the air, without requiring any cables, by using electromagnetic waves like radio frequencies, infrared, satellite, etc., in a wireless communication technology network.

Some important types of wireless technologies are satellite communication, infrared communication, broadcast radio, microwave communication, wi-fi, Bluetooth technology, mobile communication system. The most common wireless technologies use radio. With radio waves distances can be short, such as a few meters for television or as far as thousands or even millions of kilometers for deep space radio communications [1].

It is rationale nowadays to increase data capacity and coverage to cater the growing population of electronic devices.

There are some contradictions in the field of wireless and wired technologies

On the one hand, the wired technology is not going to disappear, because of their ease of connection, and certain standards. Wired data transmission offers much higher data transfer rate compared with wireless solutions. However, the author of the dissertation “Study of Wired and Wireless Data Transmissions” [4] said that the wireless solution “can offer a superior flexibility over the wired solution when the communicating equipment is moving or rotating”. Also, the wireless technology can offer a lower installation cost, for example, if the distance between the communicating devices about couple of meters to a few hundred meters away from each other, their communication using wireless technology will be cheaper than wired.

However, other researchers think that the wireless technologies also have many disadvantages. They can be hacked, they consume large

amounts of energy, have a limited radius of distribution, have different frequency band in different countries. It is often suggested the negative effect of the impact on existing network architecture, stability and maturity of new hardware and software, and higher per-unit cost [3].

The next important contradiction is the development of wireless technologies. Nowadays there are lots of technological devices used by people. All technologies continue to grow; also the wireless technologies improve their characteristics, their concept and materials, hardware and software. Security is getting better, but many people argue this development, as the costs can increase greatly with the development of wireless technology [5].

Therefore, there are two main tasks to be solved: to find the current problems in the development of wireless technologies and suggest some steps for their solutions; and to find whether the development of wireless technologies continue and whether it is cheaper and better than wired technologies and existing wireless technologies.

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ТРЕНДЫ И ПРОБЛЕМЫ В РАЗВИТИИ БЕСПРОВОДНЫХ ТЕХНОЛОГИЙ ПЕРЕДАЧИ ДАННЫХ

Аннотация: технологии передачи данных постоянно совершенствуются. Появление беспроводных технологий передачи данных абсолютно изменило нашу жизнь. Беспроводные технологии служат для передачи информации на расстояние между двумя и более точками, не требуя связи их проводами. Практический каждый вычислительный девайс обладает беспроводной функцией. Но также без проводной технологии мир бы не достиг таких результатов в развитии функции передачи данных.

Так будет ли продолжаться развитие беспроводных технологий передачи данных? Будут ли они лучше и дешевле проводных

технологий? Существуют ли проблемы в развитии беспроводных технологий? Какие необходимо осуществлять шаги для их разрешения?

Ключевые слова: Беспроводные технологии, проводные технологии, связь, радио, девайсы, передача информации.

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